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THE FACTS ABOUT THE UPPER BAY SEED OYSTER AREA

INFORMATION has come to the Conservation Department from oyster packers and other sources regarding statements which have been made to the effect that there are vast quantities of oysters on the so-called "Seed Area" section of the upper Bay oyster rocks. The figure reported, in fact, is that there are about 50,000,000 BUSHELS of oysters on these rocks, and that 5,000,000 bushels could be transplanted therefrom to the depleted oyster rocks of the Bay and tributaries. Because this information does not tally with the facts in the case, and to correct any misunderstanding that might arise from such statements, the Department feels it important to give a complete summary of the upper bay Seed Area situation.

In 1906 the General Assembly of Maryland created the Shell Fish Commission of Maryland, and provided at the same time for a survey of all the natural oyster bars in the State waters in order that they might be delineated and charted. The rest of the bottoms, known as " barren bottoms," were to be leased by the State for oyster culture.

This survey, which started in May, 1906, was completed in 1912, and covered with very great accuracy the oyster-producing area of Maryland. In the Fourth Annual Report of the Shell Fish Commission, the survey of the several counties and

bay waters was summarized, and the following, dealing with the upper Chesapeake waters known as "the Lumps," or Seed Area, is noted:

"The results of the survey of the oyster grounds in question show that the area covered by the Lumps is not nearly so extensive as has been reported, and the examinations which were made, indicate that the reported quantity of small oysters which the Lumps annually produce, has been greatly exaggerated.

"The productive oyster grounds situated above a line connecting Bodkin Point with Swan Point, exclusive of Swan Point Bar, include the following oyster bars:

Name of Bar	Area Reserved	Area Actually Producing	Quantity Oysters on Bar When Surveyed*
ANNE ARUNDEL COUNTY—	Acres	Acres	Bushels
Bodkin Point, North	547	275	14,300
"Lumps," East of Craighill Channel	2,048	650	161,850
BALTIMORE COUNTY—			
Miller's Island Lump	140	50	2,650
Tea Tables	2,136	1,050	130,200
Man O'War Shoals	734	370	15,910
KENT COUNTY—			
Hodges	298	225	96,075
Gale's Lump	1,927	1,500	120,000
Mitchell's Bluff Bouy	94	10	7,910
Tolchester Lump	39	20	14,460
Coal Lump	210	105	7,665
Deep Shoal	90	45	7,470
Phoenix	46	25	225
Total	8,300	5,325	578,715

* Based upon the estimate of 329 marketable oysters per bushel and 821 culls per bushel.

To these may be added one other bar which produces a certain quantity of seed as well as merchantable oysters. It is known as Mountain Point Bar, and includes the Snake Rip. This bar contains 1,630 acres, and figuring that one-half of the bar produced oysters at that time on the same basis as the other bars containing 108.7 bushels per acre, it would add 88,590 bushels to the number of oysters on the upper bay bars, and give a total of 667,505 bushels.

Following an excellent catch of spat at the head of the bay in 1926 and 1927, the Department was able to open this section to the bay dredgers in April, 1928, for the purpose of catching seed oysters for Maryland oyster planters and the depleted natural oyster bars down the bay. The demand for seed was very great and 233,000 bushels were removed and planted on

good growing bottoms. The Department then used what shell money was available for the purchase of seed from the dredgers and saw that it was properly planted. More than a hundred dredge boats of all sizes from the small skipjack to the schooner, were engaged in this operation which lasted more than a month. Depleted oyster bars in Tangier and Pocomoke Sounds as well as in the bay and other tributary waters received a supply of seed. Forty thousand bushels were accordingly transferred to Tangier and Pocomoke Sounds and 9,330 in Fishing Bay and Honga River, lower Dorchester. In addition to this amount, 47,670 bushels were caught and planted as follows:

	Bushels
Dredging area off Calvert County bay shore	15,800
Great Choptank, Tred Avon and Miles Rivers	17,238
South River, West River, Herring Bay, Patuxent River and Smith's Creek (Potomac River Section)	14,632

This makes a total of 330,000 bushels taken from the head of the bay that year, and it may be added that it is the greatest quantity ever removed from that region during the term of the present Commissioner. There were more than 100 dredge boats engaged in this operation, which lasted over a month, and the supply on the rocks was reduced to such an extent that the Conservation Department did not consider it advisable to re-open the area for the removal of seed for several years thereafter.

Between April 24 and May 24, 1933, the Department engaged a limited number of small dredge boats and 64,000 bushels of seed were transferred from Phoenix, Flat Rock, Hodges Bar, Tolchester Bar, Tea Tables and Craighill Lumps, to the dredging rocks adjacent to Kent Island.

In April, 1934, approximately 140,000 bushels of seed were taken from the same area and moved to Tangier Sound and the dredging rocks in Chesapeake Bay.

A very careful investigation was made of the head of the Bay rocks on September 11, this year, by Conservation Commissioner Earle, assisted by Chief Deputy Commander Amos Creighton, Deputy Commander G. F. Akers and Captain Herman A. Woodfield, of the Advisory Committee, and all the bars from Sandy Point north to Phoenix Shoals were examined. They all showed a very satisfactory growth of oysters in good, healthy condition, and it is conservatively estimated that 200,000 bushels of seed may be taken next spring and moved to the oyster areas in other parts of the State where seed is

needed. The work of transplanting these oysters, including hire of boats for the dredging and running to the planting grounds, can be done for ten cents per bushel.

FEDERAL AID FOR OYSTER PLANTERS

THE passage by Congress of Senate Bill 3541 which authorizes the Farm Credit Administration to extend credit to oyster planters for production purposes should greatly aid oyster cultivation in Maryland. Loans are limited, however, to planters holding leases from the state in which their acreage is located.

At a meeting of oyster planters held at Newport News, Va., on August 30, a production credit association was organized for the purpose of making loans to oystermen operating in that region of Chesapeake Bay. Mr. J. Richards Nelson and Mr. Howard A. Miller, representing the Farm Credit Administration, were present, and Mr. Nelson explained the basis upon which loans may be obtained. He stated "Loans may be made to:

1. purchase and plant or transplant seed oysters;
2. plant shells or other suitable cultch;
3. harvest and market oysters;
4. protect oyster crops from natural enemies of oysters;
5. purchase necessary equipment;
6. refinance indebtedness incurred from any of the above purposes."

Mr. Nelson explained that loans made by the local production credit associations will be of a somewhat different character than those made by commercial banks. They will ordinarily have a maturity of one year or less, and must be secured loans. The primary security required will be a first lien or a chattel mortgage on the crop planted with the proceeds of the loan or all crops of oysters already planted by the applicant. Whenever a valid mortgage can not be given on the oyster crop, the association will require assignments of the leases of the oyster grounds and real estate mortgages on owned oyster grounds. In some instances, borrowers may offer mortgages on equipment or shore property. Loans may not exceed 50 per cent of the current total value of the oyster crops already growing and those to be planted with the proceeds of the loan. This value will be based on the cost or estimated yield, whichever is the lower. The rules and regulations under which loans will be made can shortly be had from the Farm Credit Administration in Washington.

Following the meeting at Newport News, a similar meeting was held at Easton, on September 4, for the purpose of forming a production association for Maryland, to assist oyster planters in this State. Messrs. C. A. Loockerman and W. E. Northam were elected directors by the Maryland representatives, ten of whom were present, and the association presumably will begin to function this month. The Maryland organization will meet at Salisbury, on September 10.

HAS THE OYSTER INDUSTRY A FUTURE?

Paper read by H. GORDON SWEET *before Oyster Growers and Dealers Association of North America.*

THIS PAPER is being read to you because the oyster industry is in a critical condition, the causes of which are older than the depression, in spite of the fact that the last four years have been the worst in our history. I shall suggest that our industrial sickness is the result of failure to recognize certain fundamental requirements of successful business operation today and close by submitting that present evils may be largely corrected through the coordinated efforts of this association.

I ask you to be on your guard against an attitude of mind which is satisfied to dismiss our condition by pointing to the recent unprofitable operations of other industries, for I will show that the oyster industry was displaying danger signs several years before the depression, and will submit statistics to indicate that our business experience of the last two years has been exceedingly unsatisfactory in comparison with that of other food-producing groups.

In 1910 the production of oysters in this country amounted to 24,736,112 bushels. By 1930 this figure had fallen to 12,761,701 bushels, a shrinkage of 50 per cent in two decades, which included the greatest economic expansion the world has ever seen.

Let us review the history of these years as it applies to the oyster industry. Near the beginning of the period, our business was demoralized by repeated typhoid scares. Your association met the crisis with a determined campaign of favorable publicity and advertising, including the oyster cook-book, which most of you have used. Public confidence was restored and a great volume of business resulted.

In spite of this temporary recovery the industry was losing ground, for per capita consumption of oysters steadily declined. Profits were possible in this period only because the production of oysters was contracting faster than the demand. This diminishing supply gave the industry an apparent prosperity, for growers and packers could sell their output at satisfactory price levels. Short term profits obscured the dangerous fact that consumers were turning from oysters to other foods and the slow disappearance of old established producing firms went largely unnoticed.

In December, 1924, we were again confounded by a major catastrophe in the form of unfavorable publicity arising out of scattered typhoid epidemics. The volume of business done by our company in that season declined to one-quarter of the sales for the preceding business year. In January, 1925, the United States Public Health Service, the Bureau of Fisheries, and the Bureau of Chemistry were asked to safeguard the public interest and preserve a great food producing industry by enforcing rigid sanitary control of oysters similar in technique to regulation of milk and public drinking water supplies. The Surgeon General appointed a commission, of which Messrs. Beach, Raye, F. W. Darling and Dr. Radcilffe were members, and meeting with officials and men of science, devised and set up a broad system of sanitary regulation which coordinated the work of local, State and Federal health authorities, to the end that oysters should be supplied the public with absolute assurance as to their purity. To this system of sanitary control we may well owe the existence of our industry today.

In 1925, when oysters were still a discredited food, your association again stepped forward with two programs of great importance. Under the leadership of the late William H. Killian, of Baltimore, then president, an advertising campaign was launched which did much to offset public prejudice and succeeded in winning back a respectable volume of business for all sections of the industry. As a concrete example of what was accomplished, let me again cite the case of our own company, whose sales increased 250 per cent in 1925-1926, compared with the disastrous season of 1924-1925.

Second, and of lasting importance, your association undertook a research program to determine the exact significance of oysters as a food and to encourage investigation and study by competent scientists throughout the world. Your research committee decided to place the direction of this work

in the hands of Dr. Herbert D. Pease, of New York, a loyal and distinguished friend of the industry, and ten years have shown results of extraordinary fruitfulness. The research program did not stop here, for its work also included winning the confidence of the medical profession in the purity of oysters and making available to them many important facts about the dietary and nutritional value of this food. The work has been successful in a large measure and we are now in the position of offering a product which has the respect and support of well-informed medical men throughout North America.

The fact that widespread publicity attending this research work did not offset the public drift to other foods is not the fault of your research program, but rather it is due to the rise of a new and well nigh irresistible force in our national life. This was the power of national advertising, generated by the free spending of billions of dollars and applied with vast ingenuity and skill by specially trained agencies in a country which was terrifying the world with the rate of its industrial and technical progress. Few of us realized the impact of this force on the life of our people. The habits of one hundred and twenty-five million human beings were changed in essential respects in the course of a few years and when such upheavals occur, not only individual firms, but entire industries are obliged to fight for economic existence.

During the last eight years, groups which failed to bid actively for a share of the consumer's dollar have been automatically relegated to the sidelines of a great struggle to attract the favorable attention of a fickle and impressionable public. Any confidence in the ability of established brands or products to maintain satisfactory sales volume with little or no consumer advertising was a dangerous reliance on the stability of a buying public which was changing its customs at a rate never before seen in any civilization.

Food producing industries entered the advertising struggle later than some other groups, but competition of an intense nature has long since become the rule. We have been slow in realizing that aggressive campaigns to expand the consumption of other foods have succeeded at the expense of the oyster industry, but such is clearly the case. We have been close to the problem when we saw that the real oyster lovers are the old people. We know well that younger generations have not been taught to appreciate our product and it is not surprising that we find ourselves giving way to business men who tell the housewife what to buy, not once, but week in and week out, year after year.

The attention of the consuming public has been directed to citrus fruits, tomato juice, walnuts, duck, ham, milk, macaroni and a *hundred* other foods to the exclusion of the oysters which we would like to see on the menu of every family. Meat packers conduct aggressive advertising on a national scale, in spite of the fact that the housewife keeps meat always in mind and serves it as often as her budget allows.

In sad contrast, a yearly consumption of less than a pound per person indicates that the housewife serves oysters seldom or never. Compare this figure with an annual consumption of beef of 50 pounds, pork 68 pounds, and total meats, 137 7/10 pounds per person.

Oysters may well be called the forgotten food, and this trend of forgetfulness lies far deeper than any increase in shell trade last season caused by repeal. It lies in the figures of national production and consumption which have been declining steadily for thirty years.

Let us briefly review our business experience during the last eight seasons. You will recall, especially in the North Atlantic, that sets became increasingly scarce and supplies of market oysters contracted. After good crops in 1925 and 1926 we had three years of almost complete set failure. The price of oysters rose to high levels, carried up by the boom-years to $3.75 and $4.00 a gallon. We were liquidating the North Atlantic industry because of our inability to replace the crops of oysters which were being consumed. This destruction of capital justified high prices, but I would like to point out that this policy aggravated our relations with the public. Oysters became a real luxury and the housewife was not taught that they were valuable and important enough in the diet to justify their cost. And so demand continued to contract because oysters were feared by some, too expensive for many, badly prepared by most and, worst of all, unadvertised at a time when the housewife was having her mind made up for her by the national advertisers.

In 1930 purchasing power collapsed, driving the public to cheap and obvious foods. In the same year the industry got an immense set of little oysters which promised to end the artificial advantage of scarce crops. The psychological effect of this 1930 set was quickly felt, for growers and packers were compelled to wonder how they could possibly market any such quantity of stock in the face of a vanishing demand.

The depression bore heavily on us in 1931 and we became demoralized. Prices went down far below cost and although

one half of what they were in 1929, demand was not stimulated. During the past two years prices have continued to fall and demand has continued to contract. Please note that I am speaking of the industry as a whole, and not of any one section.

In my section of the country (Connecticut) dealers have not been able to stimulate demand even by the most desperate price reductions, and this is why I have stubbornly attempted to maintain prices. We have not been able to stem the tide, but I am obstinate enough to think that the effort was worthwhile and our own business experience seems to bear this out.

In three short years following 1930, total income from production of oysters has declined from $17,000,000 to less than $6,000,000. This terrible shrinkage might well be a death blow to an industry which had already lost one-half its national volume of sales in the preceding two decades. We must not delude ourselves into thinking that these statistics are typical of all industry in depression years. Such a fallacy would lead to the belief that our problems will be solved as recovery takes place and the conclusion that it is futile to fight a depression which is nationwide and worldwide in extent.

To guard against such an attitude which might prevent us from taking steps to reconstruct the industry, I ask you to contrast our recent experience with the following information compiled by the National City Bank of New York:

"Thirty-seven food products concerns made net profits of $44,025,000 in 1932 and $52,711,000 in 1933. Eighteen meat packers lost $2,059,000 in 1932 but made $22,347,000 in 1933. Other classifications tell essentially the same story."

This material is quoted from the April issue of *Butchers Advocate,* and I submit that in comparison with other food producing groups, the oyster industry appears to be on the high road to extinction.

So here we are in the summer of 1934, united in one thing, if not in many. We are wondering how to go about the rehabilitation of our industry so that individual businesses may profit thereby, and I doubt if there is a business group in the entire country which does not know that the welfare of each member is inseparably bound up with the welfare of the industry to which it belongs. This is one important fact in a world which is apparently demonstrating that the economic, political and social principles of a century are of doubtful value in the present world crisis. Luckily, it is not the function of this assembly to solve the critical problems which con-

front the continents of Europe, Asia and North America. Our task is far simpler. It is to increase the demand for oysters. The way to do so is to tell the consuming public of the United States and Canada what a delicious and important food we have to offer every man, woman and child in the two countries. How this story is to be told is a matter for our careful study. We know that it must be told *simply, attractively, truthfully,* and with due regard for the advice of men whose business it is to know with scientific accuracy how to carry a given story to all possible consumers.

You have an advertising committee appointed whose duty it is to carry your wishes and instructions into effect. The corner-stone of this program to restore prosperity to the oyster industry is the amount of money which we, as individuals, will invest in this common purpose. It is of course true that when we need money the most, it is hardest to find, but I submit that this need for national advertising is the paramount issue before every one of us today. We must increase the demand for oysters before we can hope to operate successful businesses, and it follows that we must then invest all the money required for the best possible type of advertising campaign.

This is not a program to be supported merely as a worthy association activity when you feel that you can afford such extras. Think of it as the basis of your own business operations over the next five years.

Now you may ask why we should advertise oysters as an association matter. Why not do it individually through our own companies where we can decide the details to suit ourselves. There are several things to consider in this connection. The great majority of firms in the oyster industry are small in size and depend chiefly on price for making sales. The larger companies also depend on price, but have salesmen in the field to solicit business from wholesale and retail outlets. What advertising they do is designed to get for themselves the trade accounts of a competitor. This does not increase the total consumption of oysters by so much as a gallon per year; and it is total consumption we *must* increase if we are to stay in business.

Here and there we find a shipper doing something to increase the sales of his dealers, and all honor to such men. If the attention of the consuming public is strongly directed to oysters, such efforts will be far more productive than ever before. If not, these isolated attempts will continue to be over-

shadowed by food products which are intensively advertised. Even assuming that there are a dozen firms ready to launch campaigns to increase national demand, is it not true that these efforts will be many more times profitable if combined in one united drive which has the financial support of the entire industry, the benefit of our combined experience and the supervision of a trained advertising agency behind it?

It is within the power of this group to organize now and produce an advertising campaign in the fall of this year which will increase the consumption of oysters from 25 to 50 per cent in the immediate future. We have every reason to believe that it will not be difficult to bring oysters into the position of national recognition which they deserve. We know that oysters are a delicious, nourishing and wholesome product which ought to be purchased at least once a week by every American family. Your research program has uncovered enough material to keep ten advertising campaigns hard at work for many months.

Gentlemen, it is a good time to strike. The price of oysters is relatively low. The price of foods is rising and meat is especially high. One of the leaders in this industry, a man whom you all admire and respect, told me that in his long experience, the fisheries are badly depressed when meats are low in price and recover when these commodities advance. Here is one of several corrective factors at work to make it a wonderful time to reintroduce oysters to the public of North America. Consumers will be on the lookout for nourishing and economical food. We may not find another such opportunity in twenty years and let me assure you that the question before us today will never be solved by letting nature take its course. To go on that assumption would be a confession of weakness which could not hope to succeed in the economic competition which is facing us today.

When we realize that other campaigns have doubled and tripled the consumption of far less worthy products, it seems that we are justified in facing the present need with prompt and effective action. Bear in mind that the supply of oysters is not unlimited; in fact, it is of such a size that increased demand would soon produce a shortage of available market stock. Then, and not until then, should we encourage activities designed to increase the national supply of oysters. Until we have an increasing demand such activities are unwise, for they are making our economic survival more difficult than it is at present and it is now a moot question whether we are a

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MARYLAND FISHERIES

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OUTLOOK FOR OYSTERS AT HEAD OF BAY

THE CONSERVATION COMMISSIONER, accompanied by Chief Deputy Commander A. S. Creighton and Deputy Commander G. F. Akers, as well as Captain Herman A. Woodfield, a member of the advisory committee, made a careful investigation of the oyster bars above Sandy Point. It is gratifying to be able to state at this time that the bars show a very satisfactory growth. The oysters appear healthy and in a thrifty condition. While it is 40 days before the dredging season opens, it is believed that this area will offer a very good opportunity to the dredgers this year.

The well-known oyster bars which showed up exceptionally well were Hodges bar, where the oysters were too small last year; Love Point, Snake Rip, the lumps east of Craighill Channel, and Nine and Seven Foot Knolls. The Commissioner estimates that by the opening of the dredging season many of the oysters on these bars, which are barely under three inches, will mature to legal size. Even at this time a sufficient number of marketable oysters were found to assure satisfactory dredging operations.

The bars which produced seed, such as Tea Table, Tolchester, Phoenix Shoals and Flat Rock were bountifully supplied with seed, and it is the Commissioner's idea that at least 200,000 bushels or more of this seed may be moved next spring to the depleted natural oyster bars.

Heretofore, prior to the establishment of the Conowingo Dam, the freshets from the head of the Bay caused a very heavy mortality every few years. This seems to have been controlled with the establishment of the dam, together with the changing of the Chesapeake and Delaware Canal from a lock to a sea-level one. Both of these factors have entered into the improvement of the upper Bay seed area. The Department looks to this area to produce the greatest quantity of seed oysters to keep the natural oyster bars stocked. This and

the planting of oyster shells must continue in order to perpetuate the natural oyster bars. While more than 5,000,000 bushels of shells have been planted since 1927, it is realized from the excellent results obtained in the tributary waters that this rehabilitation work must go on.

HAS THE OYSTER INDUSTRY A FUTURE?

(*Brought from Page* 11)

source of employment or of unemployment to some 50 thousand American citizens.

When you cultivate the demand which is waiting to be awakened for your product you will cease to wonder whether some lucky chance will permit you to get a cost-price for your oysters. I even predict that you will find prices rising in spite of themselves. Certainly, the prices of your supplies and labor are rising and will continue to increase. It will be a deplorable thing if you do not take steps to insure enough strength in the price of oysters to keep in line with rising costs. And when you meet this need for more demand, you will no longer feel obliged to throw away 25 or 50 cents per gallon of oysters in a market where each man cuts his neighbor's price. Gentlemen, the decision rests with you. This program is not charity. It is an investment in future business operations which your judgment should commend to you as a prerequisite to future profits. If you do not care to plow in the necessary sums of money, we cannot expect improvement of these conditions. I thing it would be better to have no campaign at all than a half-hearted attempt, obliged to struggle along on insufficient funds. Democracies have a habit of muddling through many of their problems but I believe that democratic bodies *can* rise as one man to meet a real crisis and I wish this response for oyster industry with all my heart.

RIGID ENFORCEMENT OF CULL LAW

It has been the custom in the past, prior to the beginning of the oyster season, to call the deputy commanders and inspectors of the Conservation Department to Baltimore in order to discuss the general oyster situation and lay plans for the forthcoming season.

It was decided this year to bring to Baltimore only the officers from certain districts, to be followed by meetings in the counties at locations more convenient to the inspectors and deputy commanders. At a meeting held in Baltimore on August 31, the department's officers from Kent and Queen Anne's counties assembled. Those present were: Deputy Commanders G. F. Akers, James G. Ruth, and Inspectors George W. Miller and Carroll Pearson, as well as Chief Inspector E. O. Townsend.

Commissioner Earle emphasized the need for strict enforcement of the Cull Law during the coming oyster season, particularly in view of the great quantity of small oysters on the bottoms. Buoy Rock, which has been closed to tonging, will open October 16.

On September 4, the deputy commanders and inspectors of Talbot County were requested to be present at Easton for instructions and discussion similar to the Baltimore meeting of the week previous. Those present at this meeting were:

Commissioner Swepson Earle,
Chief Clerk H. H. Johnson,
Mr. Robert S. Harrison,
Captain A. S. Creighton,
Chief Inspector, E. O. Townsend,
Deputy Commanders—
W. J. Haddaway,
Geo. O. Haddaway,

Inspectors—
Geo. A. Cummings,
M. E. Lednum,
W. M. Colburn,
Kirby Thompson,
Howard Sinclair,
W. I. Haddaway,
Anderton Hubbard,
George H. Barnes.

Again the matter of rigid enforcement of the Cull Law was thoroughly impressed upon the assembled officers, and other matters concerning certain rocks in local waters were discussed.

Similar meetings will be held at Cambridge for deputy commanders and inspectors of the Eastern Shore as well as a meeting to be held on the Western Shore later.

OYSTER GROWERS AND DEALERS MEET IN BALTIMORE

THE Oyster Growers and Dealers Association of North America and the National Shellfisheries Association held their joint convention in Baltimore this year at the Southern Hotel, August 6, 7 and 8.

The meeting was well attended and a plan advanced to carry on an extensive advertising campaign to increase the sale and

consumption of oysters was greeted with enthusiasm. Voluntary pledges of $35,000 to finance the campaign were given at the meeting and further efforts will be made toward raising a fund of $100,000 for this work. The proportion of the cost of the campaign to be borne by every packer will be worked out. Scientific research, in the past few meetings so highly regarded by the Association, will be pushed into the background during the coming year. It will not, however, be entirely dropped from the Association's program, but it was felt that under present business conditions the industry would find it more advantageous to promote the sale of its products, and toward this end the value of a campaign to advertise these products is widely recognized. An excellent paper entitled "National Advertising—Our Vital Need," read by Mr. H. Gordon Sweet, of New Haven, is published elsewhere in this magazine.

The effect of the Oyster Code and its possible benefits to the industry were discussed by R. N. Fiedler, Deputy Administrator of the NRA; Arthur E. Hungerford, Maryland director, National Emergency Council; and Dr. Lewis Radcliffe, secretary, Oyster Code Authority. Mr. Fiedler stated that trade associations are more necessary than ever, because the codes permit them greater freedom of action and thereby increase their sphere of influence and powers for good.

Dr. H. D. Pease, director of research, Oyster Growers and Dealers Association, read an interesting paper on the "Nutritional Value of Oysters" as developed by experiments made by the Pease Laboratories, under the authorization of the Oyster Growers and Dealers Association. "Iodine Content," "Oysters in Anæmia" and "Vitamin Values" were the titles of other interesting papers read on the second day of the meeting.

Both associations re-elected their officers to serve another year. They are as follows: For the Oyster Growers and Dealers Association, Howard W. Beach, president; F. W. Darling, first vice-president; H. Gordon Sweet, second vice-president; W. H. Robbins, secretary; H. I. Brown, treasurer, and Lewis Radcliffe, executive secretary.

For the National Shellfisheries Association: R. V. Truitt, president; Herbert F. Prytherch, vice-president; Austin Phillips, secretary, and Howard W. Beach, treasurer.

TO REMOVE GASOLINE TAX ON WORK BOATS

Governor Ritchie has issued a statement to the effect that if reelected he will seek to have the four-cent gasoline tax on work boats used by oystermen and fishermen removed. The Governor feels that this is a discriminatory tax since pleasure craft owners may have it refunded, but work boats may not.

This tax has been the source of considerable dissatisfaction throughout tidewater sections of the State since its passage in 1927, and the work boat owners feel that if they are obliged to pay it, all boats plying the waters of Maryland and using gasoline for motive power should also pay it. A portion of this money accruing from the four-cent tax on work boats was used by the Conservation Department for the purpose of oyster shells for rehabilitation purposes on the depleted oyster bars. This work has resulted in the planting of about 1,000,000 bushels of shells a year.

HISTORY REPEATS ITSELF

DR. H. D. PEASE, *Director of Research, Oyster Growers and Dealers Association.*

(Paper read at Oyster Growers and Dealers Convention)

FIFTY YEARS AGO bacteria was isolated, and medical investigators became progressively more and more bacteria-minded as it became necessary to determine the part they played in the cause of disease and to work out the methods of control of transmission of them from patient to prospective victim; also to learn the values of chemical antiseptics and germicides; and, finally, to develop antitoxins, new vaccines, and other preventive and curative serums and allied biological products. No special progress in the science of foods and nutrition had ever been made.

However, it soon became evident that there were some types of conditions of the animal body which permitted the infectious penetration into it of particular germs and more attention was directed towards the problems of nutrition. For a generation of time after the discovery of the bacteria of disease little progress in the fields of nutrition in any practical manner was made. In 1908 Mendel and Osborne, in this country, undertook researches on the value of purified proteins in animal nutrition. They showed that of these less than a dozen and a

half of the building stones of certain nitrogen containing acids making up the structure of proteins, there were two which were absolutely essential for full nutrition, and, especially, growth, while others aided merely in maintaining the body. They endeavored to determine the part which fat played, and attention was drawn to that factor in foods which before that time had shared with starches, sugars and other carbohydrates, the role of the chief heat furnishers for body and mental activities. They at one time thought that growth might take place without fat in the diet. It was not surprising, however, that one of their students, Dr. McCollum, later at Wisconsin, and now one of Baltimore's most widely known citizens, found that one fat-containing food, butter, carried a most important growth-promoting principle, which was the second of the vitamins to be discovered and later classed as vitamin A.

Years before that period an Oriental disease of the nervous system was shown to be relieved by the inclusion of rice bran in the diet, and Funk had roughly isolated a factor from rice, which, with many and still continuing efforts at purification, was the first one of these essential factors to be called a vitamin, a name coined by its discoverer, Funk. His factor was classed as vitamin B.

Even earlier than Funk's day it was known that fresh vegetables, and principally fruits, prevented the disease of long sea voyages which caused great weakness, softness and bloody tissues, known as scurvy, and efforts to isolate the factor from these preventive foods and to measure their value by animal tests led to the classification of another vitamin C.

Vitamin B as found in yeast was shown to be composed of more than one factor and this led to the identification of one which undoubtedly plays a part in the prevention of one of the conditions of the body in pellagra. This disease was at first attributed to the heavy eating of moldy corn. More lately even, there has come to be believed the existence of several other B vitamins, one of which appears to be especially related to the promotion of growth. Researches on yeast also have given us the isolation of a food element of a somewhat fat-like nature, a sterol, which, when exposed to the active sun's rays, becomes curative in the bone disease, rickets, which had been earlier shown to be preventable and curable by cod liver oil, which after the work on butter was shown to be the most important source of vitamin A.

Industrially, vitamins and the newer food values were slowly

taken up by food producers and distributors. The writer well remembers that he advised one of the great milk companies in 1912 to study the irradiation of milk with ultraviolet light, but it was to show whether it would destroy bacteria. The germs were destroyed but at a higher cost than by heating or pasteurization. If the high cost of the process had not stepped in the high nutritional value of irradiation of milk, now one of the most popular of scientific advances for the prevention of the disease, rickets might have been noted a decade or more before it was discovered by our late and much beloved colleague, Dr. Alfred Hess, of New York.

In 1914 the writer advised the cold storage warehouse men then engaged in preventing the heavy curtailment of their business by attacks on cold storage and frozen foods, to undertake the study of what did or did not happen to such foods from the standpoint of these vital food elements by reason of cold storage and freezing during the usual periods of storage. He is reminded that his chief researches were on fish. It was shown both bacteriologically and by Dr. Gies, of Columbia, chemically, that these foods came out of freezer storage in the same condition as they went into it. In consequence, of these and allied studies, the keeping of foods in freezer refrigeration storage from one season, until, at least, the next, was shown not to be detrimental to their special vital qualities, provided these had not been impaired before freezing. You will be interested to know that the tests for vitamins in raw oysters conducted for us by Dr. Whipple were those that had been frozen and held in that state during the full period of her animal tests, so that the same stock could be fed at all stages of her most interesting vitamin studies.

Vitamins, and, indeed, most if not all of these essential food factors or those that we call precursors of them, when eaten by animals, are almost immediately available for their growth and health maintenance. It is only a matter of hours for vitamin C to start in noticeable degrees the recovery process in animals suffering from scurvy. Vitamin A works with almost equal rapidity. Vitamin B works on pigeons which are in the tortures of paralysis in an almost magical manner. It is not surprising that it has been found that man and animals find in certain vegetable foods these vital food factors in a more or less preformed condition. However, in no one vegetable food are all present. It remains for the fully and vitally fed and completely nutritionalized animal to balance all of these factors for its fullest and most buoyant health. To ob-

tain all of these vital factors in one form of food, animals must eat other animals as do the snakes, the foxes and many of the smaller forms of animal life. Man eats the whole animal in shell-fish and in the raw and very fresh state and it is not surprising, therefore, that the results of the researches of the nutritive values of oysters and other shell-fish have shown such good balances of excellent levels of substantially all of these vital nutritive factors in them. These vitamin researches, first inaugurated by the Federal departments of fisheries and of agriculture, by Dr. O. Breese Jones, were rapidly and intensively continued and supported by the Research Committee of the Oyster Growers and Dealers Association under the writer's direction, and were followed up again in most active and important studies on other nutritional problems on the values of the iron and copper and of iodine in oysters, on the first two by the speaker and his colleagues and on all three by the Federal Bureau of Fisheries, cooperating with the South Carolina Food Commission, under the able and stimulative direction of Dr. Roe E. Remington, also on other possible values of oysters by Dr. W. Bergmann, of Yale, under the personal support of Mr. Howard W. Beach, president of the Oyster Growers and Dealers Association. The end has by no means been reached. Each of the known discoverable essentials for the human dietary may be presumed to be in or have their counterpart in oysters. Their possible values in those abnormal body conditions which lead to pernicious anemia and others which occur in diabetes should be investigated. The studies on the first of these are already under way and are promising. The public will be more and more interested in the knowledge of this comprehensiveness of nutritional values. It will not be too much to expect, if in due course it cannot be said of the vital nutritive human values of oysters, "all in one and one for all."

History repeats itself, for the activities of the Research Committee of the Oyster Growers and Dealers Association likewise began with the problems of prevention of bacterial contamination of oysters in the interest of the avoidance of effects of the increasing pollution of tidal waters by cities and more heavily settling of community life along our coastal waters. They have extended into the researches on special nutritive values of oysters as one of man's most comprehensively protective foods from the standpoint of the whole range of minerals, vitamins, and, soon, we believe, we will show from several other important organic food factors. As

shell-fish are coming to be almost the one class of food which mankind will eat with relish as whole animals and in the raw state, the oyster industry, which conducts the service of supplying man with these most nutritively valuable foods, should never let up for a single moment in the effort to acquire the fullest and most conclusive and proven information in these fields. Nothing in the management of the whole industry has such universal value to each member in it from tonger on the water, to retailer dealing with the crowded sea of humanity in our cities, as the intensive continuation of researches on the nutritive values of oysters and its allies in other shell-fish. Nothing can serve better to keep the industry working together in a harmonious well-organized group than the activities associated with the promotion of such researches and the publicity promulgation of the results of them. The results of these fields of intensive endeavor should cement all engaged in it into one solid group so that like the oyster itself they would be "All in One" to the one end that these valuable foods would become available for supplying most if not all the needed factors in human nutrition.

THE STATE-WIDE MARYLAND OUTDOOR LIFE CONVENTION, NOVEMBER 21-22, 1934

In the State of Maryland there are four types of associations, clubs and societies interested directly or indirectly in perpetuating and studying the natural resources pertaining to outdoor life. These organizations may be classified essentially as civic, scientific, conservation and outdoor groups. Their total membership in the entire State of Maryland is well over 30,000, not to mention the tens of thousands who are not affiliated with any group.

While each of these bodies is concerned and interested in the future of the State's natural resources, each is approaching their phase of the work from a different viewpoint, handicapped by a lack of concerted and unified thought and action. The diversity of interests, all striving for the same goal, was so apparent that in October, 1933, Mr. Merle E. Towner, then president of the Maryland State Game and Fish Protective Association, suggested in his annual report that a state-wide convention be organized to coordinate and solidify conservation thought.

Following his recommendations, Mr. Talbot Denmead, who

succeeded Mr. Towner as president of the Maryland State Game and Fish Protective Association, appointed a committee, headed by Mr. Combs Burch, to investigate the feasibility of holding such a convention in the city of Baltimore. After contacting a number of organizations throughout the State, the committee's report was favorable regarding such a convention and 19 organizations, including civic, scientific, conservation and outdoor groups, appointed delegates and alternates to work with a permanent chairman, who was to be elected. The groups represented are:

Alert Rod and Gun Club,
Baltimore Casting Club,
Baltimore Association of Commerce,
Belair Road Game and Fish Protective Association,
City of Baltimore,
Conservation Department,
District Federation of Women's Clubs,
Isaac Walton League, Sportsmen's Chap. 5,
Maryland Academy of Sciences,
Maryland Beagle Club,
Maryland Field Trials Association,
Maryland Sportsmen's Luncheon Club,
Maryland State Game and Fish Protective Association,
Natural History Society of Maryland,
Oriole Archers,
Oriole Rod and Gun Club,
State Department of Forestry,
State Game Department, and the
University of Maryland.

The result was that the State-wide Maryland Outdoor Life Convention, the first of its kind ever to be held in the State of Maryland, and what is hoped to be one of the annual highlights of Maryland's conservation and outdoor life activities, is to take place on November 21 and 22, 1934, at Hotel Emerson, Baltimore. At this year's convention, Baltimore is acting as host to county organizations. In the future, however, it is planned to hold the convention in every large city throughout the State.

The purpose of the convention is to concentrate all of the efforts and strength of each of the sponsoring societies, including civic, scientific, outdoor and conservation thought, in order that the development and preservation of all of Maryland's great outdoor resources may be fully appreciated and carried forward.

As Dr. Francis D. Farrell, president, Kansas State Agricultural College, in a recent radio address so aptly expressed it:

"Conservation, like many other important subjects, is widely misunderstood. One of the commonest forms of misunder-

standing of the subject is the belief that conservation is something for the Government to worry about, something with which the individual citizens, the 'man in the street,' need not be particularly concerned."

While conservation is one of the subjects which will be considered at the sessions of the Maryland Outdoor Life Convention, each of the phases of outdoor life as outlined briefly below will come up for discussion. It is planned to have a program so interesting and comprehensive as to be of equal interest to the rural as well as urban population.

The conservation phases of the program will deal principally with bringing about a popular acceptance of the correct definition of the word, i.e., "Wise use: use without waste: use without destruction as applied to conservation of forests, streams, lakes, land, wildlife and scenery." Conservation's true purpose is to eliminate pollution of water, erosion of soil, destruction of forests without reforestation, extinction of wildlife without restocking, despoiling of scenery without authorization.

The program will include the more important phases of the following topics:

The Pollution Problem—Its Betterment and Control;
Protection and Propagation of Maryland Game and Fish Life;
Reforestation and Its Application to the General Outdoor Situation, including Upland Game;
Maryland's Water Feature—the Chesapeake Bay, the Potomac and Susquehanna Rivers—Their Value to the State;
General Survey of Navigable Rivers of the State;
Preservation of Maryland's Mountain Streams;
Proposed Park System;
Camping Privileges;
Preservation of the State's Natural Beauty;
Protection and Replenishing of Flora and Fauna;
The Rights of the Commercial Fisherman;
Fish and Game License Fund and Its Use;
Conservation Department and Its Work.

The convention begins at 10 o'clock the morning of Wednesday, November 21st, with morning and afternoon sessions devoted to hearing the presentation of subjects and discussions from the floor. Luncheon will follow immediately after the morning session. Entertainment features are also planned. The banquet will be held Wednesday evening, climaxed with an unusual entertainment and exclusive talking pictures never before shown in the State.

Additional subjects will be presented and discussed Thursday morning, November 22nd. The afternoon will be featured by skeet shooting, bait casting, and an old-fashioned Maryland oyster roast on the grounds of a local gun club.

The Maryland Outdoor Life Convention is receiving its financial support from the city of Baltimore, many clubs and associations, and individuals who are sending in their contributions. Wherever the idea has been presented it has met with enthusiastic approval and support, which parallels the experience of other states where state-wide conventions are held annually. It is important that Maryland make this an annual institution when it is realized that the State of Maine, through the activity of groups such as this convention, is able to attract to their State revenue amounting to $30,000,00 annually. While this is merely the commercial aspect of the results, there are many other benefits so important that every Marylander interested in the future of Maryland's out of doors, should attend and have an interest in this worthwhile movement.

A cordial invitation is extended to the officers and members of organizations throughout the State, desirous of attending and participating in the convention, to communicate with H. Lee Hoffman, chairman, Franklin Street at Calvert, Baltimore, Md., for further information.

In addition to Mr. Hoffman, the officers include Frank A. Woodfield, vice-chairman, Myer Rosenbush, secretary, and J. G. McCallister, treasurer. The committee chairmen of the convention include Ernest D. Levering, chairman, Finance Committee; Arthur Blackburn, chairman, Entertainment Committee; Mr. Talbott Denmead, chairman, Program Committee, and Lester R. Towner, chairman, Hotel and Banquet Committee.

Working with them are the following representatives of the societies listed above: Dr. E. A. Andrews, F. W. Besley, Percy Blogg, J. C. Bondurant, Walter S. Brinkman, Combs Burch, Harold S. Callowhill, Swepson Earle, John B. Egerton, H. Carroll Eichelberger, Edmund Fladung, Thomas F. Fox, Mrs. Calvin Gabriel, Geo. M. Gillet, Sr., W. S. Hamill, Robert F. Jackson, Arthur H. Jones, E. Lee LéCompte, Dr. W. Edw. Magruder, Karl W. Meislahn, Aden Miller, A. M. Miller, George H. Neilson, Dr. C. L. Newcomer, Herbert C. Moore, Robert E. T. Owens, K. E. Pfeiffer, Herman Schneider, Mrs. Eileen Seaman, J. D. Steele, Dr. T. B. Symons, Mrs. Chas. H. Thompson, Merle E Towner, and Dr. R. V. Truitt.

FISHING NEWS

A dispatch from *Washington* (D. C.) *Herald*, dated August 31, reports the presence of sea trout in goodly numbers in the lower bay waters, particularly in the vicinity of Solomon's Island and Point Lookout. Good catches have been made by anglers all along the bay, but these points have enjoyed an especially good run of this delightful fish. Trolling for bluefish still holds out the prospect of good sport, although the season for this fish has somewhat passed its peak.

TONGING LICENSES

Tongers, financially unable to secure their licenses before beginning work on September 1, will be allowed fifteen days grace, according to a ruling of the Conservation Department issued to its officers prior to the opening of the official oyster season in Maryland. In those sections where the season does not open until September 15, or October 1, tongers will also be allowed fifteen days in which to obtain their licenses.